REMARKS

This letter is responsive to the non-final office action dated June 11, 2008.

Interview Summary

Applicants thank Examiners Caldwell and Recek for participating in a telephone interview with Applicants' Representative (Kendrick Lo) on July 2, 2008.

In the interview, the outstanding objection under 35 U.S.C. 103 and the subject matter of claims 1, 11 and 12 were discussed. The relevance of the Arellano and Healey references was also discussed.

The Applicants' Representative put forth the position that the relied-upon references do not teach "identify patterns in said input data and said output data to suggest that an input to a first web service... is obtainable from output of a second web service of said plurality of web services". The Applicants' Representative also put forth the position that, in the absence of the Applicants' teachings, the stated motivation the teachings of Arellano and Healey, even in combination with the known process of "reverse engineering", would not lead the ordinary skilled person to the claimed subject matter.

No agreement on the claims was reached.

Claims 1-6, 11-12 and 15-17 remain in the application.

Rejections Under 35 U.S.C. 101

Claims 15-17 stand rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Applicants thank Examiner Recek for clarifying his position with respect to the objections under this section. Claim 15 has been amended to explicitly recite physical hardware, namely a microprocessor. Claim 17 has been amended to recite a physical computer medium. Withdrawal of the rejections under 35 U.S.C. 101 is respectfully requested.

Rejections Under 35 U.S.C. 103

In the office action, the Examiner has withdrawn all rejections to the claims as being anticipated by U.S. Patent Publication No. 2004/0148334 A1 in the name of Arellano et al. ("Arellano"). The Examiner has now rejected claims 1-6, 11-12 and 15-17 as being obvious in view of Arellano and US 2003/0225825 in the name of Healey et al ("Healey"). Applicants respectfully traverse all rejections.

The relied-upon art does not teach "identify patterns in said input data and said output data to suggest that an input to a first web service... is obtainable from output of a second web service of said plurality of web services"

First, as was noted in the interview, Claim 1 recites the identification of "patterns in said input data and said output data". When read in conjunction with the features recited in the preceding paragraph, it is evident that a proper construction of the phrase requires that the data used/displayed during actual web service invocations be used as the basis for pattern identification, which Arellano does not teach. It was submitted in Arellano that patterns are identified based only on ontological descriptions, and Healey does not disclose a system

that identifies patterns in input and output data. Paragraph 75 of Healey generally discloses that input can be processed in a browser, in the context of application authoring.

It is respectfully submitted that failure of the relied-upon references to teach that patterns during actual invocations of web services are to be identified, is a significant point in the Applicants' favor that suggests non-obviousness.

However, to expedite prosecution of the application and in view of the discussion between the Examiners and the Applicants' Representative, the term "through" as used in the paragraph reciting the act of monitoring has been replaced with "during use of" to be consistent with the preceding paragraph, and to emphasize that the patterns are identified based on use and not, for example, by analyzing web service descriptions. The paragraph reciting the act of generating a new user interface has also been reworded to clarify that the new user interface is generated if said patterns are identified.

In the absence of the Applicants' teachings, there would be no motivation to combine the teachings of Arellano and Healey to arrive at the Applicants' claimed embodiment, even in combination with the known process of "reverse engineering"

Arellano neither teaches nor suggests that inputs/outputs during actual web service invocations could or should be considered when aggregating web services; Arellano appears to be concerned with the study of ontological descriptions in considering whether services are to be "co-ordinated". Healey generally discloses that input may be processed in a browser in the context of application authoring, but Healey is not concerned with aggregation of web services. The Examiner suggests a combination in which the teachings of the two references may be combined. It is respectfully submitted that, at best, the web service descriptions must still at some point be analyzed to determine

potential patterns in the combination of prior art references proposed by the Examiner.

In contrast, in the Applicants' claimed embodiments, pattern identification is not based on the web service descriptions. The web service descriptions are merely used to initially "generate one or more user interfaces through which input data is obtainable and output data is displayable". Subsequently, the web services are invoked, and only then might a new user interface be generated if a pattern is identified during actual use of the one or more user interfaces.

It is respectfully submitted that the relied-upon references fail to recognize that actual consumption (use) of web services might even be relevant to the aggregation process. It is respectfully submitted that this is a significant point in the Applicants' favor that suggests non-obviousness.

It may be appreciated that given two web services having associated web service descriptions, prior art systems in which pattern identification is based on the web service descriptions themselves might be regarded as providing more predictable results, as the descriptions will typically remain static during use. The web services might be aggregated before their actual use by such a system, regardless of whether the web services are subsequently used, and how they are actually used.

In contrast, pattern identification based on a user consumption of web services, as performed in the Applicants' claimed embodiments, may not provide consistent results for all users. Consider the following examples, by way of illustration only:

- Two web services ("first and second web services" as claimed) are provisioned on the respective devices of four different users.

User A does not use any of the two particular web services, even though they have been made available on his device. No patterns are identified, and no new user interface that aggregates the two web services is generated.

User B uses only one of the "first" and "second" web services. No patterns are identified, and no new user interface that aggregates the two web services is generated.

User C invokes both web services, but based on the particular manner in which he uses those web services, no patterns are identified. No new user interface that aggregates the two web services is generated.

User D invokes both web services, and patterns are identified based on the particular manner in which he uses the web services. A new user interface that aggregates the two web services is generated.

- Two web services are invoked by User E. User E routinely provides the output of one web service as input to another web service in a manner that is particular to that user, but that pattern might not be apparent from the web service descriptions themselves (e.g. the data is associated with fields that are seemingly unrelated). There would still be a new user interface generated based on User E's specific usage if an output/input pattern is detected, even if aggregation would not seem apparent from the web service descriptions, and even if a new user interface would not be generated on any other device if no other user utilizes the two web services in the same way as User E.

In respect of the claimed embodiments, the Applicants recognized that there may be certain advantages in generating new user interfaces that aggregates web services being used in a manner that is customized to a user and that particular user's usage of web services, independent of whether the web services descriptions themselves may or may not suggest aggregation. This is not recognized in the relied-upon references.

It is respectfully submitted that the relied-upon references fail to provide a teaching, suggestion or motivation to combine selected features of the references with, for example, common general knowledge, to arrive at the subject matter of the amended independent claims. The Applicants note that the Supreme Court's KSR decision did not reject the use of a "teaching, suggestion or motivation" analysis as part of an obviousness analysis. The Supreme Court characterized the analysis as a helpful insight. However, the absence of a teaching, suggestion or motivation is a significant point in the Applicants' favor, as this absence is indicative of non-obviousness.

Although the Supreme Court did not reject use of a "teaching, suggestion or motivation" analysis, the Supreme Court did say that it was not the only possible analysis of an obviousness question. In the event that the Examiner chooses to pursue a different avenue for rejection, the Examiner is invited to explicitly identify the rationale and articulate the reasons on which such rejection is based, and it should be noted that any new avenue would be a new ground for rejection not due to any action by the Applicants.

The Applicants further respectfully reminds the Examiner that, even after KSR, the following legal principles are still valid, having been endorsed by the Supreme Court or having been unaffected by its decision: (1) the USPTO still has the burden of proof on the issue of obviousness; (2) the USPTO must base its decision upon evidence, and it must support its decision with articulated reasoning (slip op. at 14); (3) merely demonstrating that all elements of the claimed invention exist in the prior art is not sufficient to support a determination of obviousness (slip op. at 14-15); (4) hindsight has no place in an obviousness analysis (slip op. at 17); and (5) Applicants are entitled to a careful, thorough, professional examination of the claims (slip op. at 7, 23, in which the Supreme Court remarked that a poor examination reflected poorly upon the USPTO).

All of the Examiner's concerns have been addressed. For the foregoing reasons, it is respectfully submitted that the subject matter of the independent claims as amended is both novel and non-obvious over the cited art. It is further respectfully submitted that the subject matter of the dependent claims that remain is also patentable for at least the same reasons. Withdrawal of the rejections under 35 U.S.C. 103 is respectfully requested.

In view of the foregoing clarifications, Applicants respectfully submit that each of claims 1-6, 11-12, and 15-17 is in form for allowance, and a notice to that effect is respectfully requested.

Respectfully submitted,
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Agents for the Applicants

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